

We claim:

1. An apparatus for use in detecting the authenticity of a container sealed with a cap, comprising;
 - a radio frequency identification tag comprising a substrate and a radio
 - 5 frequency transceiver circuit adapted to transmit a signal upon receipt of a transmit command and mounted upon said substrate;
 - a cap for a container having a closed end and an open end, said radio frequency identification tag mounted on an inner surface of said cap; and
 - an engagement member interconnecting said substrate and said container
 - 10 such that removing said cap from said container results in the fracture of said substrate thereby causing said radio frequency identification tag to become permanently disabled.
2. An apparatus for use in detecting the authenticity of a container sealed with a cap, comprising;
 - 15 a radio frequency identification tag comprising a substrate, a radio frequency transceiver circuit adapted to transmit a signal upon receipt of a transmit command and mounted upon said substrate, an antenna having a fixed length mounted upon said substrate and connected to said radio frequency transceiver circuit, and a first interconnection means on said substrate;
 - 20 a cap for a container having a cylindrical portion, a closed end of said cylindrical portion and an open end of said cylindrical portion, said radio frequency identification tag mounted on an inner surface of said cylindrical portion of said cap adjacent to said closed end such that said first connection means faces centrally inward; and
 - 25 a second interconnection means connected to said container for engaging said first interconnection means when said cap is installed on said container such that removing said cap from said container will exert force on said substrate resulting in the fracture of said substrate thereby causing said radio frequency identification tag to become permanently disabled.

3. An apparatus for use in detecting the authenticity of a container sealed with a cap, comprising;

a radio frequency identification tag comprising a substrate, a radio frequency transceiver circuit adapted to transmit a signal upon receipt of a transmit command and mounted upon said substrate, an antenna having a fixed length mounted upon said substrate and connected to said radio frequency transceiver circuit, and a protrusion affixed to said substrate;

a cap for a container having a cylindrical portion, a closed end of said cylindrical portion and an open end of said cylindrical portion, said radio frequency identification tag mounted on an inner surface of said cylindrical portion of said cap adjacent to said closed end such that said protrusion extends centrally inward; and

ratcheting means connected to said container for engaging said protrusion when said cap is installed on said container such that removing said cap from said container will exert force on said substrate resulting in the fracture of said substrate thereby causing said radio frequency identification tag to become permanently disabled.

4. An apparatus for use in detecting the authenticity of a container sealed with a cap, comprising;

a radio frequency identification tag comprising a substrate, a radio frequency transceiver circuit adapted to transmit a signal upon receipt of a transmit command and mounted upon said substrate, an antenna having a fixed length mounted upon said substrate and connected to said radio frequency transceiver circuit, and a slot in said substrate;

a cap for a container having a cylindrical portion, a closed end of said cylindrical portion and an open end of said cylindrical portion, said radio frequency identification tag mounted on an inner surface of said cylindrical portion of said cap adjacent to said closed end such that said slot faces centrally inward; and

ratcheting means connected to said container for engaging said slot when said cap is installed on said container such that removing said cap from said container will exert force on said substrate resulting in the fracture of said substrate thereby causing said radio frequency identification tag to become
5 permanently disabled.